C1850-1 A

PACKAGING

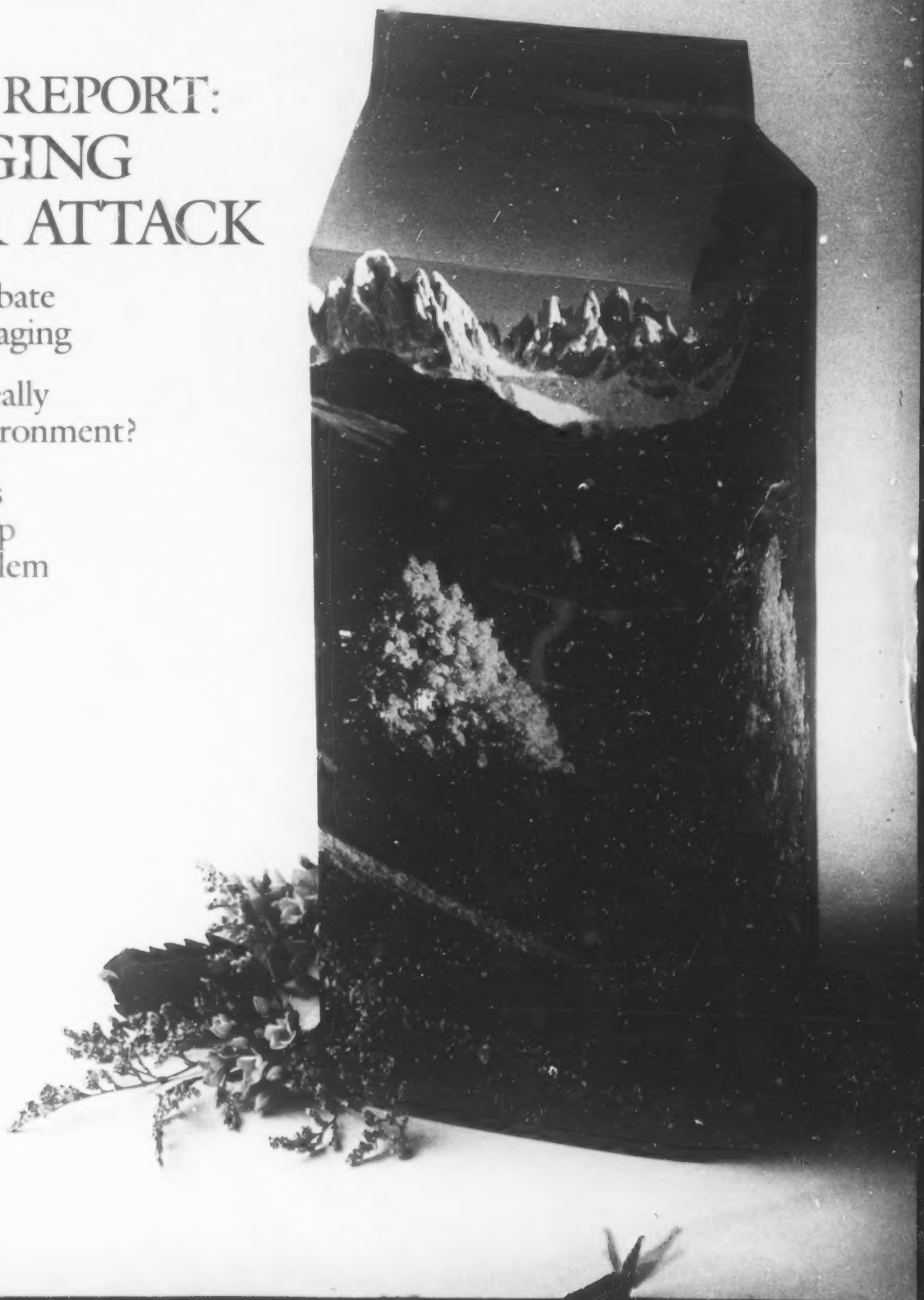
THE CAHNERS MAGAZINE FOR DECISION-MAKERS/AUGUST 1989

SPECIAL REPORT: PACKAGING UNDER ATTACK

Solid Waste Debate Threatens Packaging

Is Packaging Really "Bad" For Environment?

What Packagers Can Do To Help Solve The Problem



CONTENTS

A CAHNERS PUBLICATION VOLUME 34 NUMBER 11

THE STAFF

HOWARD SIPE
Publisher

R. BRUCE HOLMGREN
Editorial Director

ROBIN ASHTON
Editor in Chief

MERLE MULLINS
Managing Editor

MELISSA LARSON
Senior Editor

GREG ERICKSON
Senior Editor

MARK SPAULDING
Associate Editor

LISA McTIGUE PIERCE
Staff Editor

H.O. RANGER
Technical Editor

DAVID HEINLY
Washington Bureau Chief

JOHN PETER
Editorial Consultant

ANTONIOS PRONOITIS
VP/Executive Art Director

JUDY WHITT
Director of Art Department

GLEN LUENSMAN
Associate Director,
Art Department

PATTY CAHILL
Senior Art Director

GILBERT MUÑOZ
Director of Graphic Production

RALPH A. BURRIS
Production Supervisor

CARL JOHNSON
Advertising Production Manager

NANCY COOPER
Director of Advertising Contracts

BARBARA A. PIKE
Circulation Manager (Denver)

EDITORIAL OFFICES
DES PLAINES, ILL. 60017-5080
Cahners Plaza
1350 E. Touhy Ave. P.O. Box 5080
312/635-8800

ERNIE KUMMER
Director, Corporate
Reprint Services

M.R. ROBINSON
Vice President Research
Bureau of Marketing Research

LARRY HAYS
Research Director

KATE JERNEY
Administrative Services

MARY WILLIAMS
Manager, Marketing Services

THE PACKAGING GROUP
PACKAGING/USA
R. Bruce Holmgren
AUSTRALIAN PACKAGING/
AUSTRALIA
Norman MacLeod
EMBALLAGES/FRANCE
Marie Therese Van Ghekuve
IMBALLAGGIO/ITALY
Lita Santoxanale Riggio
DAGENS INDUSTRI/SWEDEN
Ake E. Andersson

CHARLES E. MOODHE
Senior Vice President/General Manager
Chicago Division

PACKAGING NEWS

Computer software analyzes solid waste 8
Computer programs now help trace the waste stream, price curbside programs or design a better package

Kid trends drive Ralston's newest cereal packages 14

After-shave's redesign gives product the winning Edge 15

Heinz baby juice woos parents with convenience 16

PACKAGING FEATURES

SPECIAL REPORT: PACKAGING UNDER ATTACK

Packaging and the solid-waste problem 32
Packaging is being unfairly attacked as the bad guy of solid waste

The big squeeze 34
Advice to an industry under siege: Take control . . . or else

Rushing to judgment 42
Hundreds of government proposals seek to ban or restrict packaging

The consumer's opinion 50
PACKAGING's exclusive surveys reveal concern, misinformation and a willingness to help

Living on top of it 58
Modern landfills entomb trash, just as they are designed to do

The burning issue 64
Economics and politics combine to put the damper on incineration

Garbage to gold 70
That sounds great but isn't likely: Recycling is expensive

When less is more 76
Designers work to reduce environmental impact

Conclusions and solutions 82
No doubt about it: Education and communication will be crucial

What can be done about solid waste 86

PACKAGING TECHNOLOGY

Reciprocating coders meet peak Passover season demands 106

Blister packaging cuts costs, adds retail display 108

Composite can expands market; sales jump 50 percent 112

Molded foam cushions 94-foot airplane wings 114

DEPARTMENTS

EDITORIAL	3	ASSOCIATIONS	24	CLASSIFIED	122
NEW PACKAGES	14	PEOPLE	26	ADVERTISERS INDEX	131
PACKAGING NEWS	21	NEW EQUIPMENT	104	WRAP UP	132
CALENDAR	22	NEW MATERIALS	110	READER SERVICE CARD	133

Cahners Publishing Company, A Division of Reed Publishing USA ☐ Specialized Business Magazines for Building & Construction ☐ Manufacturing ☐ Foodservice & Lodging ☐ Electronics & Computers ☐ Interior Design ☐ Printing ☐ Publishing ☐ Industrial Research & Technology ☐ Health Care ☐ Entertainment ☐ Specialized Consumer Magazines: American Baby and Modern Bride.

PACKAGING formerly Package Engineering including Modern Packaging (ISSN 0746-3820) is published monthly, except in February, March, June, and August when two issues are published, in national, demographic and separate editions by The Cahners Publishing Company, A Division of Reed Publishing USA, 275 Washington Street, Newton MA 02158-1630. Terrence M. McDermott, President; Charles E. Moodhe, Senior Vice President/General Manager, Chicago Division; Jerry D. Neth, Vice President/Publishing Operations; J.J. Walsh, Financial Vice President/Magazine Division; Thomas J. Dellamaria, Vice President/Production and Manufacturing. Circulation records are maintained at Cahners Publishing Company, 44 Cook Street, Denver, CO 80206-5800. Phone 303/388-4811. Second-class postage paid at Denver, CO 80206-5800 and additional mailing offices. Postmaster: Send address corrections to PACKAGING at our Denver address. PACKAGING formerly Package Engineering including Modern Packaging, copyright 1989 by Reed Publishing USA; Ronald G. Segel, Chairman and Chief Executive Officer; Robert L. Krakoff, President and Chief Operating Officer; William M. Platt, Sr. Vice President.

NEWS BRIEFS . . .

Canada Vibac Tape Corp. will build a new $30 million facility to manufacture biaxially oriented polypropylene film for adhesive tapes. The new company, Vifan Canada Inc., will be on-stream in 1990 . . . **Milliken Chemical's** Millad 3905 polyolefin clarifying additive has been approved for use in food-contact applications by the Health Protection Branch of the Canadian Bureau of Chemical Safety. Primarily used to enhance the clarity of polypropylene and low-density polyethylene, Millad 3905 has been cleared by the U.S. Food and Drug Administration and most European and Far Eastern countries since 1980 . . . **Hargro Flexible Packaging** has officially acquired the **Lamcote Chicago** and **Lamcote Cedar Grove** operations from **Arvey Corp.** . . . **Royal Packaging Industries Van Leer B.V.** has acquired **American Flange & Manufacturing Co.** . . . **Domino Amjet, Inc.** has announced the appointment of **Canadian Inkjet Systems Ltd.** as sole Canadian distributor for its line of coding equipment and supplies . . . **Alusuisse** has acquired two French packaging firms: **Charmettes S.A.** and **Cerlive S.A.** . . . **Chesapeake Packaging Co.** has purchased **Displayco Group** from **Schiffenhaus Indusdustries** . . . **Westwood Pharmaceuticals**, a **Bristol-Myers** company, has chosen pressure-sensitive label supplier **Gintzler Graphics** as its Packaging Vendor of the Year . . . **GE Plastics** has moved its packaging operations from Norcross, Ga. to its company headquarters in Pittsfield, Mass. The move consolidates the firm's packaging development efforts with the resource of its **Polymer Processing Development Center** . . . **Reynolds Metals Company Can Division** has received **Miller Brewing Co.'s** Supplier of the Year award . . . **Western Summit Mfg. Corp.** has acquired **Kleerpak Mfg. Co.**. Operations will continue under the name of **Western Summit Flexible Packaging Co.** . . . A food safety and nutrition panel at the **Institute of Food Technologists** has ranked aseptic packages and the process behind them as the "most significant food science innovation" of the last 50 years. Developed in connection with the society's 50th anniversary celebration in June, the panel also ranked safe canning of vegetables and the development of the microwave oven as second and third, respectively.

CORRECTIONS

The middle chart on page 48 of the June 1989 issue of PACKAGING contains a confusing bar. The numbers shown for aluminum are correct; the bar adjacent to 9.6 is incorrectly drawn.

CALENDAR/MAJOR SHOWS

Sept. 11-14 **CMM7:** The Converting Machinery/Materials Conference & Exposition, McCormick Place, Chicago, (212) 391-9111. Circle No. **325**

Sept. 12-14 **NYPACK '89**, Javits Convention Center, New York, (212) 557-6950. Circle No. **321**

Oct. 2-4 **Pac-Ex '89**, Exhibition Place, Toronto, Canada, (416) 485-7812. Circle No. **320**

Oct. 11-13 **WestPack '89**, Anaheim Convention Center, Anaheim, Calif., (203) 964-0000. Circle No. **323**

Oct. 24-26 **InterBev 89**, Las Vegas Convention Center, Las Vegas, (202) 463-6794. Circle No. **324**

Nov. 7-11 **Packintec '89**, Milan Fairgrounds, Milan, Italy, (800) 524-2193, (201) 534-9044. Circle No. **326**

A complete list of all meetings, shows, conferences, short courses, etc., is available free from PACKAGING, 1350 E. Touhy Ave., Des Plaines, Ill. 60018-3358, Attn: Lisa McTigue Pierce, or by circling No. **327**. No phone calls, please.

PMMI. We're organized to help you.

We wrote the book on packaging machinery.

And now you can have a copy.

It's 319 pages of information on what's available, and from whom.

We list the more than 250 companies which are members, and tell you who the management contacts are at each.

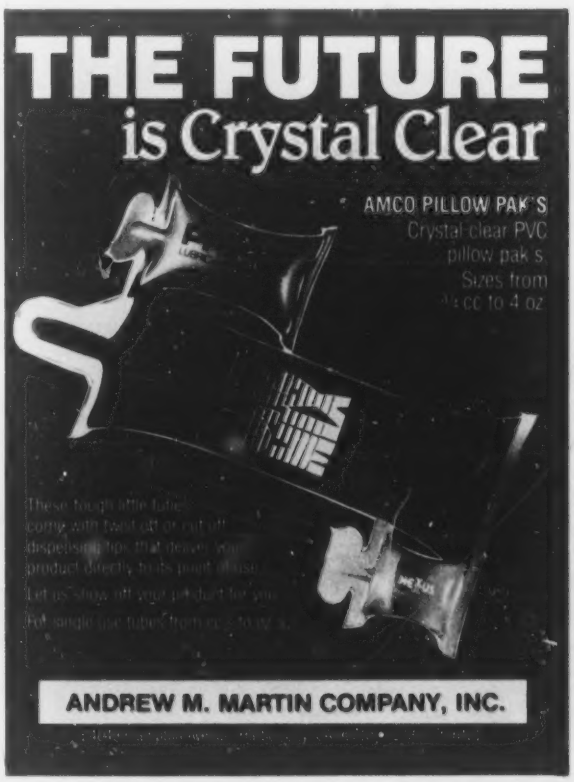
We also list what types of machines each company produces and provide a cross-reference to the companies by the equipment types produced and common trade names.

The book is bargain priced: Free, though there is a shipping charge – $3 for U.S. and $15 for international orders.

PMMI USA
Packaging Machinery Manufacturers Institute
1343 L Street Northwest
Washington, DC 20005 USA
Phone 202-347-3838 • FAX 202-628-2471.

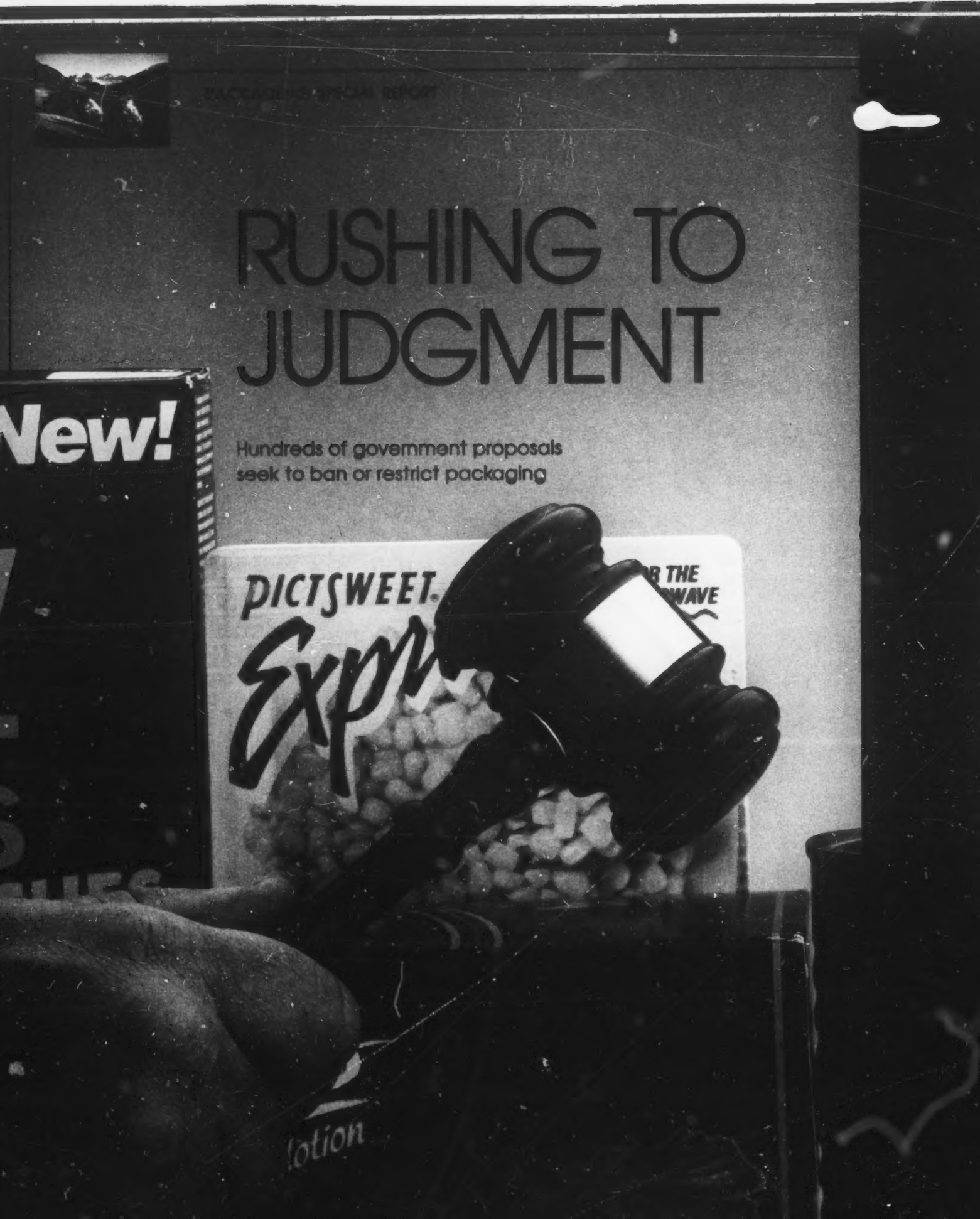
For information circle 20

THE FUTURE is Crystal Clear



ANDREW M. MARTIN COMPANY, INC.

For information circle 21


RUSHING TO
JUDGMENT
Hundreds of government proposals
seek to ban or restrict packaging
New!
PICTSWEET.
lotion

"Taxes," says the associate director of corporate packaging development. His audience seems to respond with a collective *Ouch*.

Procter & Gamble's Tom Rattray is addressing a convocation of packaging professionals. It's clear that he's not as much opposed to taxes on packaging in general as he is to taxes that are ineffective.

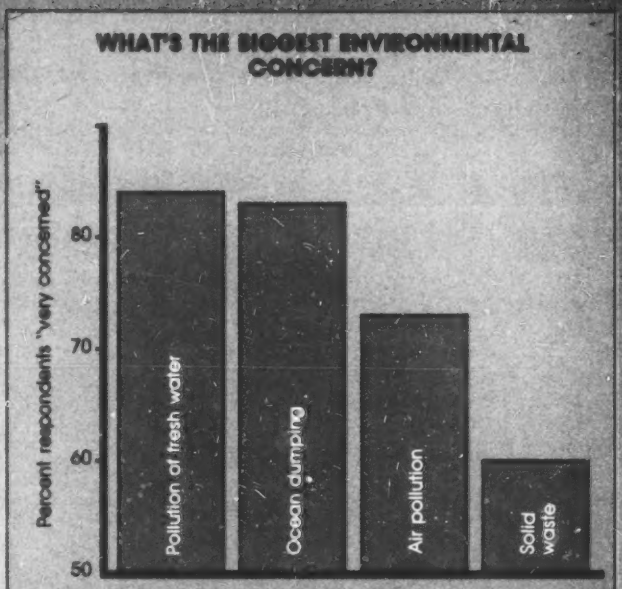
"We are very concerned," he says, "that across-the-board [packaging] taxes will simply become invisible revenue sources that leave consumers no action options, do not lead them to change their purchase or disposal habits, and therefore do little to truly reduce the nation's solid waste."

In comparison with other restrictions on packaging that recently have been proposed at all levels of government, taxes may not be worst. Even so, they're likely to be a source of headaches for packagers, lawmakers and consumers alike.

To see how, pretend that starting tomorrow each component of a package sold in your municipality will carry a one-cent tax. The price of a 27-inch color tv will rise by a nickel if its packaging comprises five pieces. The price of a pack of chewing gum will jump by 11 cents.

Such a tax has been proposed. So have these rules and regulations, requirements and restrictions:

- Imposition of disposal fees on containers not being recycled at specific rates
- Bans and surcharges on



Source: Gallup Poll, 1988

Despite all the media and legislative attention given the solid-waste issue, respondents to a recent Gallup Poll ranked it in last place among environmental problems.

Who would guess that Americans are more concerned about the environmental effects of ocean dumping than solid-waste disposal?

In a 1988 Gallup Poll survey of more than 1,000 adults nationwide, 83 percent of the respondents said they were very concerned about ocean dumping. Pollution of fresh water was a major concern for 84 percent. Air pollution was called a big environmental problem by 73 percent.

Only 60 percent of the respondents said they were very concerned about solid waste.

When the gavel comes down in municipalities all around the country, a bewildering array of anti-packaging laws result. Public- and private-sector observers agree that such laws will prove as unenforceable as they are unfair.

It's beginning to appear as though we're exchanging trash for red tape

nondegradable containers
- Prohibitions on retail sale of products packaged in multimaterial containers
- Bans on retail sale of foods or beverages in nonrecyclable containers
- Mandatory national container-deposit fees.

The enforceability—even the constitutionality—of such proposals is already being called into question. At least one law—the restriction of point-of-sale packaging in Suffolk County, N.Y.—is presently being held up so that a court-ordered environmental-impact study can be conducted. Some county and city decrees are likely to be put on hold indefinitely while their possible interference with interstate commerce is deliberated. It's beginning to sound as though we're exchanging trash—not to mention realistic solutions to the solid-waste problem—for red tape.

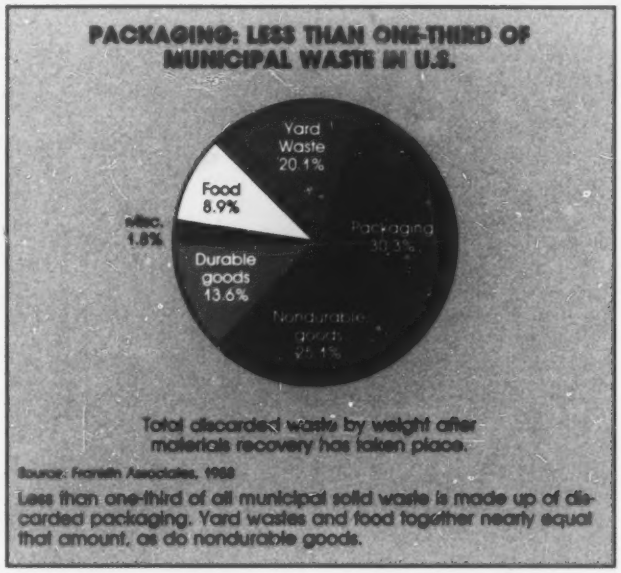
Another aspect of so many of the local proposals that frustrates packagers and some environmentalists alike is that they will do very little to actually reduce trash.

Cutting out cinnamon

Speaking of many of the proposals, Jerome H. Heckman, general counsel of the Society of the Plastics Industry, says, "If they think they're dealing with the real problem of solid waste, they are unfortunately mistaken. It's like asking you to cut out cinnamon when you need to lose 200 pounds."

Still, there's a reason for all the legislative activity. A recent Louis Harris & Associates analysis explains: "The issue of the environment has by now become an explosive and decisive cutting edge in mainstream politics."

Independent studies, including PACKAGING's annual Consumer Surveys, show that American adults are concerned about the environment. However, respondents to these polls repeatedly say they believe solid waste to be a less-threatening problem than air pollution, pollution of fresh water supplies, disposal of hazardous waste or ocean dumping.


PACKAGING: LESS THAN ONE-THIRD OF MUNICIPAL WASTE IN U.S.
Yard Waste 20.1%
Food 8.9%
Misc. 1.8%
Durable goods 13.6%
Packaging 30.3%
Nondurable goods 25.1%
Total discarded waste by weight after materials recovery has taken place.
Source: Franklin Associates, 1988
Less than one-third of all municipal solid waste is made up of discarded packaging. Yard wastes and food together nearly equal that amount, as do nondurable goods.

Solid waste is unquestionably part of the whole awful environmental problem, and packaging is part of solid waste. How much? Less than one-third. Food waste contributes more to the solid-waste stream than any single packaging material. And yard waste accounts for two-and-a-half times as much of the waste stream as even the most prevalent packaging material.

In that light, it's easy to understand why many in the packaging field see the rush of public-sector officials to pro-environment legislation as something of a frenzy. Pressured to do something—anything—a disturbingly large number of lawmakers are lending their name to quick fixes.

That might backfire. Pollster Celinda C. Lake says, "Symbolic gestures and cosmetic solutions will increasingly be seen as inadequate by voters, who will demand real action . . . ."

One voice of reason

There are some voices of reason in the public sector. One of them is Erica Guttman, environmental planner for the Rhode Island Solid Waste Management Corp., a quasi-public agency. "We recognize," she says, "that the threat of legislation is an important tool to galvanize industry to take positive actions they wouldn't otherwise take. But we also realize that in order for things to actually get done, we have to develop legislation that will give industry options to respond within the constraints of the waste problem, rather than dictating unrealistic requirements or imposing outright bans."

Gradually, lawmakers may come to see bans as impossibly burdensome. If taxes are seen as the only alternative and are imposed, says Rattray, they "must be appropriately drafted and administered, and we very much want industry to play a major role in insuring that this happens."

Dismay and anger

Much industry input so far has seemed to come not before or during development of packaging legislation, but after. Too often the reaction has consisted of little more than dismay and anger.

In a paper presented to a division of the Society of the Plastics Industry in May, Heckman said, "Opposition alone, however staunch or justified, is not enough. We must go further. Unless we want to be forever reacting to, and victimized by, the bad ideas of others, we need to come up with some good ideas of our own."

One city that could have used some good ideas from packaging professionals is Minneapolis. There, one of the more severe laws in the nation was passed unanimously last spring by the city council. It states that to be environmentally acceptable, all food and beverage packaging must be degradable, returnable or recyclable.

The ordinance authorizes city health commissioners to exempt from restriction any packaging for which there is no commercially available alternative. In determining which materials those might be, the commissioners will have to wade through a quagmire of environmental, economic and merchandising factors.

It's going to be interesting.

A leading supplier of plastic packaging materials of the type banned in Minneapolis says he can't wait for the law to take effect, so certain is

he that it will prove impossible to control.

The legal tangle

Imagine the legal tangle that would result if every state in the nation—not to mention every county and city—had its own packaging law.

In the context of this dizzying proliferation of local proposals, it is becoming clear that the solid-waste issue might best be dealt with on the federal level.

One current proposal in Congress appears to recognize this. Rep. George J. Hochbrueckner (D-NY), whose district includes Suffolk County, N.Y., has penned a comprehensive bill, the Recyclable Materials Science and Technology Act (H.R. 500).

The bill would authorize federal research and development, through the Environmental Protection Agency and Departments of Commerce, Agriculture and Defense, to help create markets for recycled products and to foster or require use of recycling technologies.

Parts of the bill are already being considered by the various departments. Hearings are scheduled for this fall. According to Peter Coogan, an aide to Rep. Hochbrueckner, the bill had 130 co-sponsors in late June and was expected to draw in another 20 by August.

While many aspects of the bill appear reasonable and promising—it does take into account, for example, the large impact of yard waste on the waste stream—it is not without its troubling aspects. A demand that non-recyclable materials be biodegradable appears in several parts of the proposal. And after five years, the bill would "prohibit" materials that are neither recyclable nor biodegradable.

Coogan tells PACKAGING, "Only in the litter aspect are we really looking at degradability." But that is not the way the bill reads.

While the Hochbrueckner proposal can be lauded for recognizing that the solid-waste problem may best be attacked most effectiveiy at the federal level, some might argue it doesn't go far enough.

If serious about truly solving the solid-waste problem, the federal government will have to take a more active role in creating a realistic infrastructure to dispose of waste, relieving local bodies of the burden once they've exhausted all their options.

One observer has suggested that a federal agency, patterned after the federal interstate highway program or the Tennessee Valley Authority, could be established. This agency would have the power to site regional solid-waste recovery and handling centers, which could be licensed to private industry for operation.

Such regional centers would first recover whatever materials could be recycled using the best available technologies. The agency would then use waste-to-energy techniques or landfilling for everything else. It could also work with communities anywhere to help set up programs needed to facilitate bringing waste to the centers.

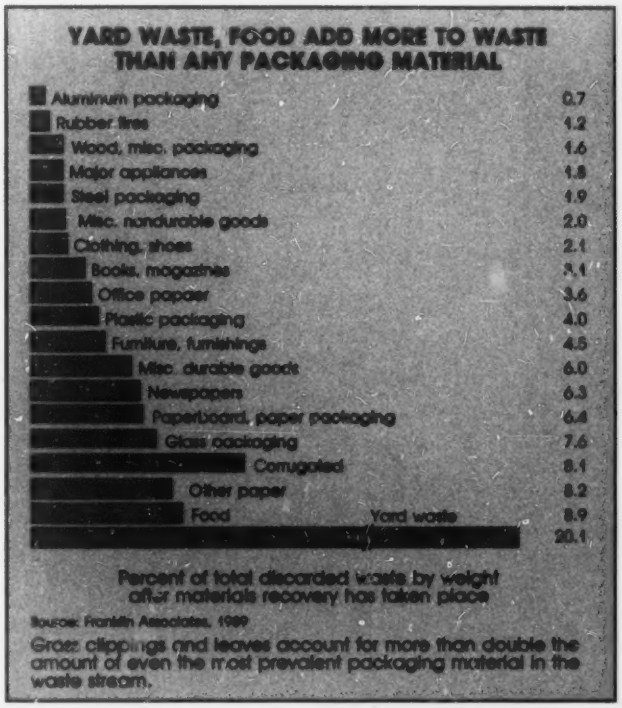
Interesting idea: realism

Perhaps the most interesting aspect of this proposal, besides its realism, is that the agency could be self-funding. The federal government could, if necessary, levy taxes on packaging materials and other components of solid waste equally and fairly to generate initial revenues for building the centers. Further revenues could be obtained from sales of materials and energy.

A broad-based federal program such as this or some similar proposal may be the only way to effectively solve the solid-waste problem. It could also be a way to get packagers and their suppliers, state, local and federal officials and even environmentalists pulling in the same direction. But such solutions require courage, vision and a swearing off of quick-fix proposals and cinnamon diets.

In the meantime, local legislative bodies will continue to struggle with the problem, with results that will often be not only ineffective and unfair to packaging, but ultimately unmanageable.

—Greg Erickson and Robin Ashton


YARD WASTE, FOOD ADD MORE TO WASTE THAN ANY PACKAGING MATERIAL
Aluminum packaging 0.7
Rubber tires 1.2
Wood, misc. packaging 1.6
Major appliances 1.8
Steel packaging 1.9
Misc. nondurable goods 2.0
Clothing, shoes 2.1
Books, magazines 3.1
Office paper 3.6
Plastic packaging 4.0
Furniture, furnishings 4.5
Misc. durable goods 6.0
Newspapers 6.3
Paperboard, paper packaging 6.4
Glass packaging 7.6
Corrugated 8.1
Other paper 8.2
Food 8.9
Yard waste 20.1
Percent of total discarded waste by weight after materials recovery has taken place
Source: Franklin Associates, 1989
Grass clippings and leaves account for more than double the amount of even the most prevalent packaging material in the waste stream.

IRONIES: STICKS AND STONES #1

A new press release from an association of glass-packaging advocates crowed about results of a nationwide poll. "Fifty-two percent of the respondents said that plastic is definitely *not* recyclable."

The italics, we're proud to say, are not ours but theirs.

THE CONSUMER'S OPINION

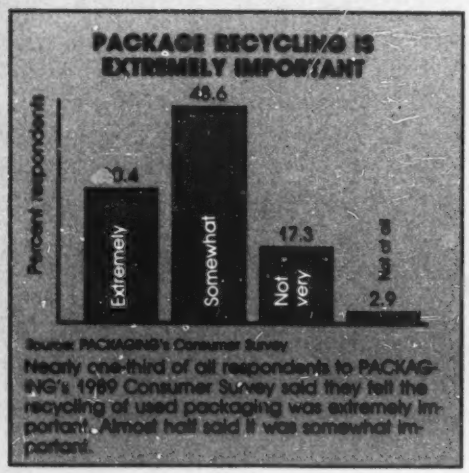
PACKAGING's exclusive surveys reveal concern, misinformation and a willingness to help

Acutely aware or utterly oblivious? Well-educated or woefully misinformed? Concerned or careless?

However it may be described, the mindset of the American consumer (and taxpayer) is unquestionably affecting the public and private sectors alike.

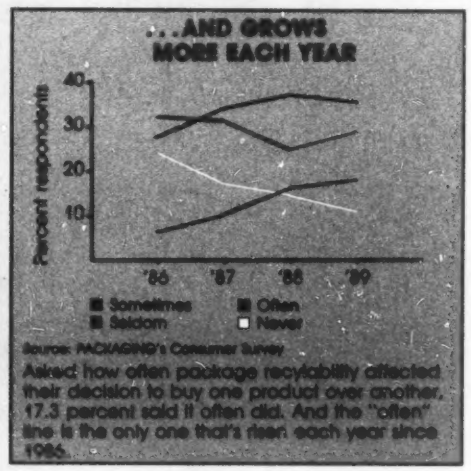
It was not consumers who originally conceived of and then went begging for disposable razors, diapers and soft-drink bottles. But once those products came to market, the consumer eagerly bought them and used them; then, as was intended, willingly tossed them out.

Americans never marched in the streets chanting "We want convenience!" but their demand for it has nevertheless been a powerful social force. In the past, convenience included the freedom to dispose of whatever was un-



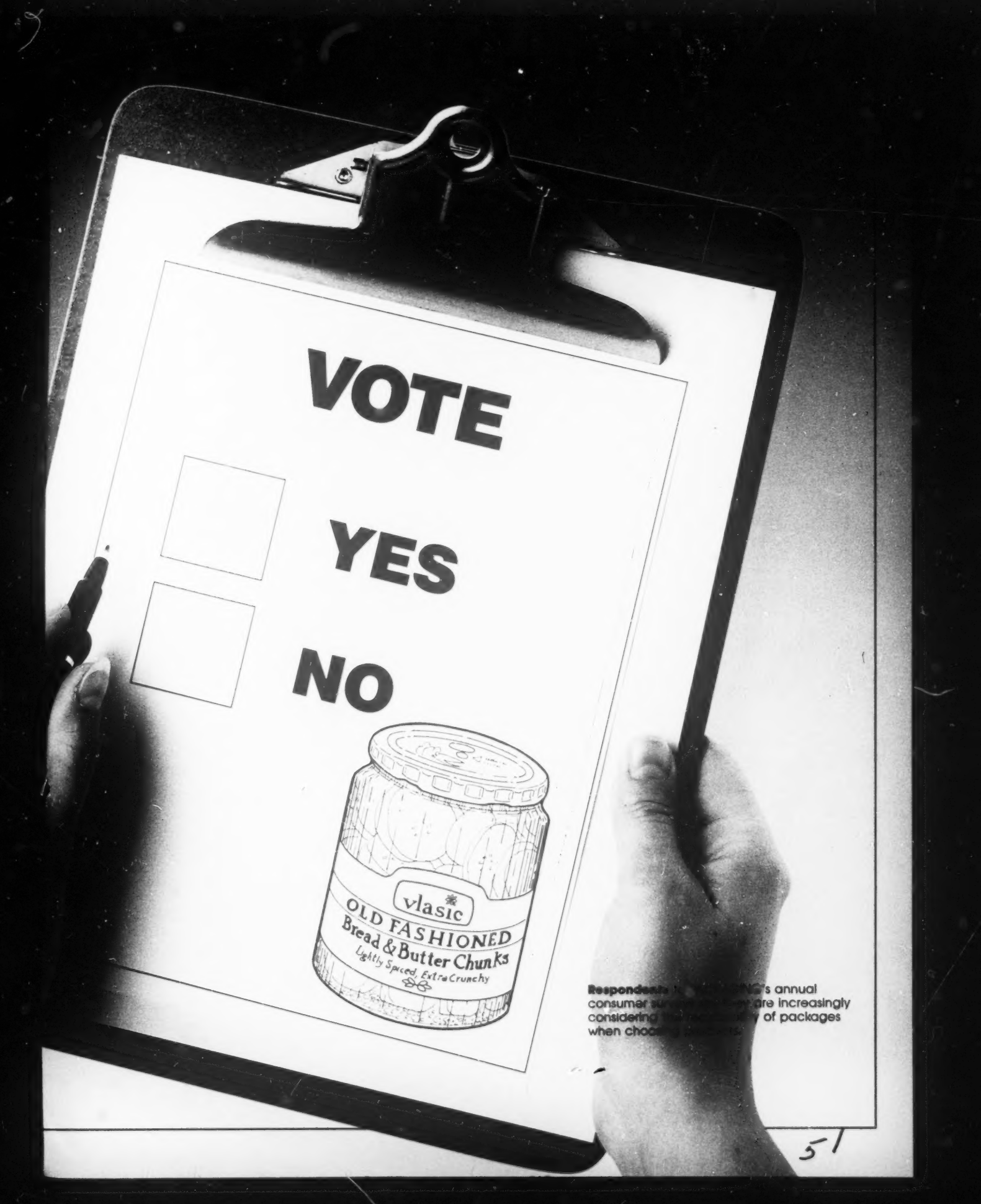
Source: PACKAGING's Consumer Survey

Nearly one-third of all respondents to PACKAGING's 1989 Consumer Survey said they felt the recycling of used packaging was extremely important. Almost half said it was somewhat important.



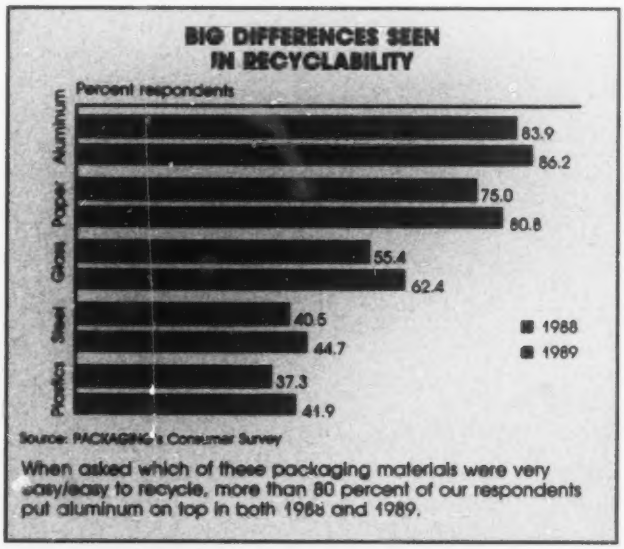
Source: PACKAGING's Consumer Survey

Asked how often package recyclability affected their decision to buy one product over another, 17.3 percent said it often did. And the "often" line is the only one that's risen each year since 1986.

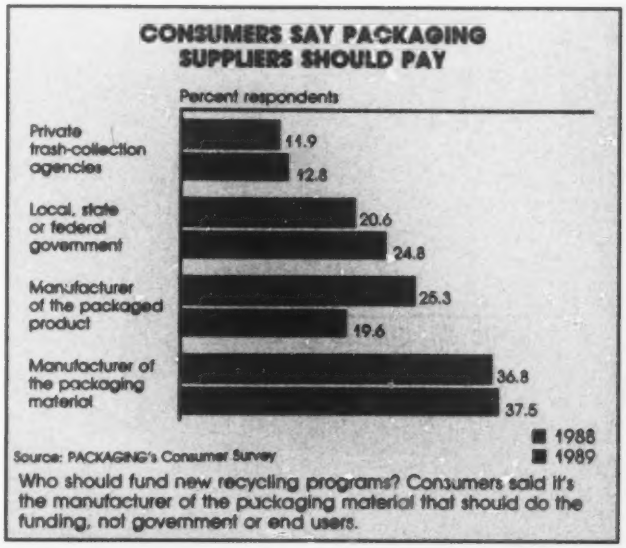


Respondents to [illegible]'s annual consumer survey are increasingly considering the [illegible] of packages when choosing products.

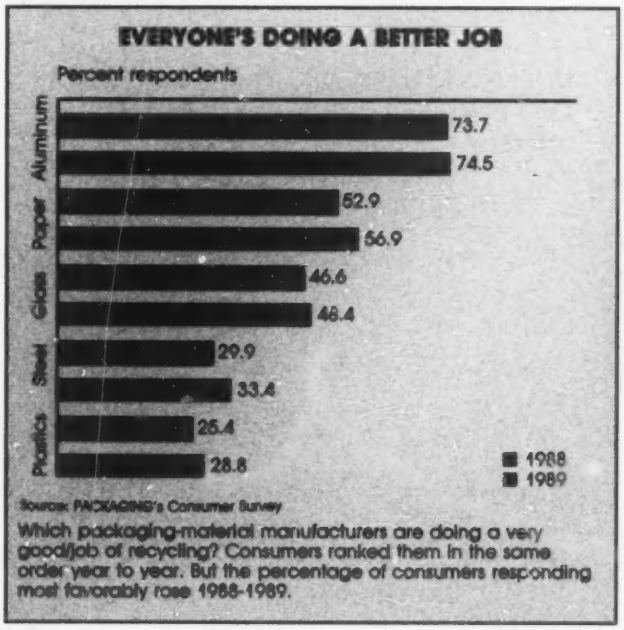
Consumers say they'll pay extra for packaging that's easy to recycle



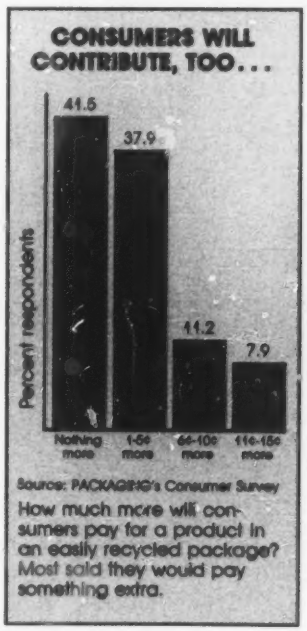
When asked which of these packaging materials were very easy/easy to recycle, more than 80 percent of our respondents put aluminum on top in both 1988 and 1989.



Who should fund new recycling programs? Consumers said it's the manufacturer of the packaging material that should do the funding, not government or end users.



Which packaging-material manufacturers are doing a very good/job of recycling? Consumers ranked them in the same order year to year. But the percentage of consumers responding most favorably rose 1988-1989.



How much more will consumers pay for a product in an easily recycled package? Most said they would pay something extra.

By a huge margin, consumers said they would sort used packaging by material for curbside collection.

wanted in whatever way was easiest.

Nowadays, though, the consumer is coming to realize that an effortless lifestyle is expensive.

To find out how and by how much opinions about packaging are evolving, PACKAGING magazine annually conducts a nationwide Consumer Survey. Each year since our survey began in 1985, PACKAGING has added questions about the impact of packaging on the environment. Each year we have seen the problem of municipal solid waste looming larger than the year before.

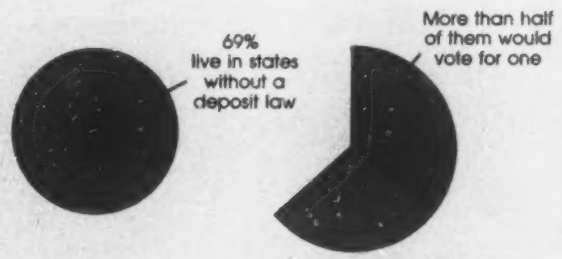
With help from a well-known opinion-research firm, PACKAGING has mailed survey questionnaires to thousands of households selected according to irrefutable demographic criteria. Opinions expressed by our sample group are representative of consumer attitudes in general.

Depending on where you stand on the solid-waste issue, the following statistics will be either reassuring or downright scary. Some of them indicate a troubling lack of information.

In 1989, PACKAGING's Consumer Survey contained this question: "How important is the recycling of used packaging to you?" The reply from more than three-quarters of the respondents was "extremely" or "somewhat."

During the years that we have asked our sample groups how often the recyclability of a package swayed them from one product to another, the percent-

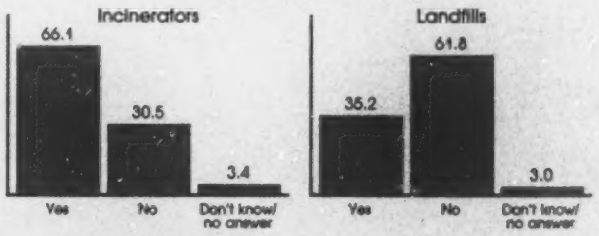
THEY ALSO FAVOR 'BOTTLE BILLS'



Source: PACKAGING's Consumer Survey

Of the consumers who live where there are no deposits charged on non-refillable soft-drink and beer containers, 53.9 percent would vote in favor of them.

SUPPORT IS HIGHER FOR INCINERATORS THAN FOR LANDFILLS



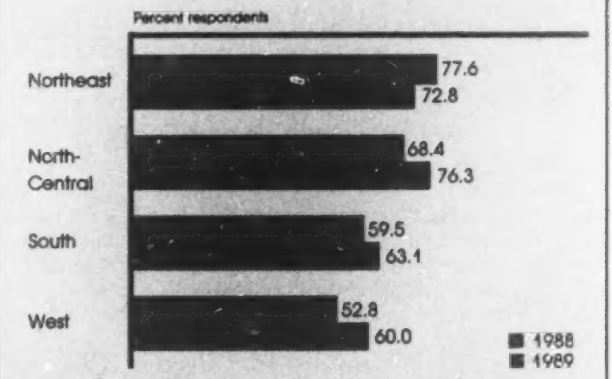
Source: PACKAGING's Consumer Survey

Two-thirds of the survey respondents said they would support building a new incinerator in their community, but only one-third would support locating a new landfill nearby.

age of consumers replying "often" has grown—from less than nine percent to more than 17. Meanwhile, the "never" responses have fallen steadily.

Which types of packaging materials do consumers think are easy to recycle? The order in which consumers ranked them—aluminum, paper, glass, steel, plastic—has not changed in two years. Neither has consumer opinion about the accomplishments of material manufacturers. In 1989 as in 1988, roughly 70 percent of our respondents said they believed aluminum manufacturers were doing a "very good" or "good" job of recycling packaging materials. Manufacturers of paper, glass, steel and plastics followed in that order.

APPROVAL OF INCINERATION DIFFERS BY REGION



Source: PACKAGING's Consumer Survey

The percentages of respondents saying they favored incinerators over landfills are high in the Northeast; low in the West.

Who wants to pay?

When we asked our 1988 and 1989 sample groups who should fund new recycling programs, the respondents pointed at manufacturers of packaging materials. According to the consumer, then, it's not Coca-Cola that should pay, but the companies that make Coke's bottles. PACKAGING of course cannot agree—at least not entirely. The responsibility for funding solutions to the trash problem is everyone's. The consumer/taxpayer will have to contribute.

We wanted to know whether our respondents in fact realized that the cost of such package recycling would eventually trickle down to them. So in another question PACKAGING asked consumers how much more, if anything, they would be willing to pay for a product in an easy-to-recycle package vs. one in a package that was difficult. The largest percentage of respondents said they would pay something extra. So, the consumer appears to be saying, if packagers must pay

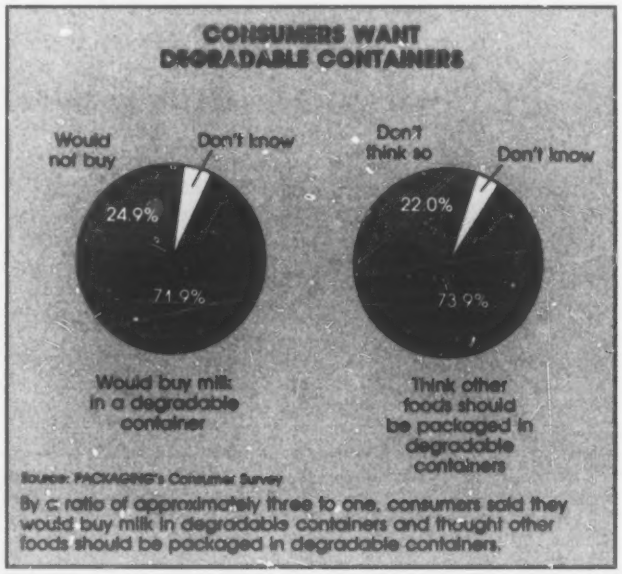
IRONIES: STICKS AND STONES #2

Most people call them consumers. This packaging executive called them disposers.

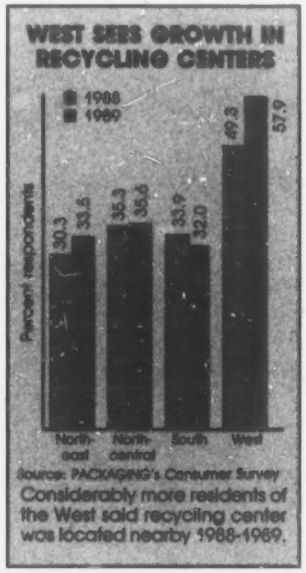
It's true, we guess. Consumers are people who dispose of packaging. But they are, more accurately and more fairly, the people who consume the product . . . and the packaging.

There's a point at which putting a favorable "spin" on controversial topics does nothing but make everybody dizzy.

Consumers say they will contribute money, time and effort in dealing with solid waste



By a ratio of approximately three to one, consumers said they would buy milk in degradable containers and thought other foods should be packaged in degradable containers.



Considerably more residents of the West said recycling center was located nearby 1988-1989.

and therefore must raise prices to do so, I'll understand.

Consumers seem agreeable to contributing time and energy as well. Asked whether they would sort used packaging materials by type for curbside pickup, fully 83 percent of our survey respondents answered affirmatively.

A majority of consumers also appear to approve of deposits on nonrefillable soft-drink and beer containers, probably because they believe they will get their money back. Of the 69 percent who said their state did not presently require a deposit on bottles and cans, more than half said they would vote to enact such a law. Suppliers of beer and soft-drink containers, bottlers and recycling proponents remain opposed to such programs. There's a multitude of good reasons.

Bury or burn?

Consumers are more likely to support construction of a new incinerator in their community than a new landfill. The land-poor Northeast is home to the highest number of incineration supporters, yet only there did approval for landfills increase 1988-1989. In the West, where air quality is a concern and relatively few respondents favor incineration over landfilling, preference for incineration nevertheless grew over the past two years.

The Northeast has attracted media attention because of its solid-waste problems, proposals and programs, but it was residents of the West who said they had best access to recycling centers. Overall, the percentage of respondents saying there was a recycling center near their home rose significantly 1988-1989.

Raging debate among experts aside, consumers seem attracted to the notion of package degradability. Asked if they would buy milk in a photodegradable or biodegradable container if they could, nearly three-quarters of the respondents answered yes. Nearly the same percentage told us they thought other food products should be made available in degradable containers.

Does the consumer realize that landfills are designed to keep things from degrading? That photodegradable trash would have to be left out in the sun to decompose? That biodegradability is dependent upon the presence and activity of microbes? We don't know—we didn't ask. We have reason to believe, though, that the answer to all three questions is no. The consumer erroneously sees degradability as the simplest of all solutions—one requiring no new taxes, rises in prices or expenditure of energy.

What does this all mean to the packaging field? For one thing, the results of PACKAGING's surveys reveal a need for new education programs. For example: The consumer appears a bit too ready to blame packagers for the trash problem and hold them responsible for funding solutions. That affects more than purchase decisions in the supermarket; it also determines in part which proposed restrictions on packaging will be enacted by the public sector, which is, after all, answerable to consumers, also known as the taxpayers.

We at PACKAGING do not see results of our Consumer Surveys as a mandate to the packaging field. The opinions expressed deserve some thought but should not in themselves force a change in company or government policy.

Happily, the surveys reveal that consumers are willing to be a part of the solution. They say they will contribute money, time and effort in dealing with solid waste. It appears as though they simply need to be pointed in the right direction and shown how they can do the most good.

—Greg Erickson

LIVING ON TOP OF IT

Modern landfills entomb trash, just as they are designed to do

The magazine editor's mouth is hanging open. An industry executive seated next to him at a business lunch is doing all the talking. "There's lots of land for landfills," says the executive, "especially in Montana. We could ship garbage out there by truck for years and years."

Montana and contiguous states do indeed have a lot of land. It could in fact be used for landfills. But it is not located near the source of most waste.

Staten Island has a lot of waste. A landfill there that began as a dump in 1948 will stand 200 feet taller than the Statue of Liberty by 2005. It will be the tallest mountain on the Atlantic Coast between Florida and Maine.

The densely populated states of Florida, New Jersey, New Hampshire and Massachusetts will close almost all their landfills within the next decade.

Roughly 40 percent of all the landfills in the United States will reach capacity by 1995.

Yet 85 percent of the waste we generate still goes to landfills, and in most parts of the country that method of disposal is the most economically feasible.

Trash and King Tut

What happens in a landfill conjures up images of Tutankhamen. Think about it: If the Egyptian king had used plastic bottles, glass jars, metal cans and paperboard cartons, those packages would be in museums today, 30 centuries later. The ancient Egyptians knew how to bury things so they would stay intact for a long time.

So do we. William Rathje, professor of archeology at the University of Arizona and the nation's leading garbologist, digs down deep into landfills and comes up with some amazing stuff. He and his students find hot dogs with mustard still on top, fast-food fried chicken complete with all the original herbs and spices, and newspapers still readable even though they were buried back when Franklin and Eleanor lived in the White House. Landfills are designed to virtually entomb their contents.

Only after a potential landfill site passes stringent tests of ground water sources, soil composition and access routes, among other factors, can construction begin. The bottom and sides of the site are lined to ensure that liquids do not trickle into groundwater supplies. At the end of each dumping day, a layer of soil is spread atop the compacted waste.

We'll never get buried

Says Harvey Alter of the U.S. Chamber of Commerce, "An important misconception is that everything that goes into a landfill should be biodegradable. If this were true, more leachate (the foul and potentially dangerous water seepage) would be produced, gas production (like swamp gas from decaying matter) would be higher, and there would be no stability; that is,

Some items that are theoretically recyclable or incineratable will continue to be landfilled for years to come.

Incineration is trash in, ash out, so material recovery is prudent

IRONIES: EUPHEMISTICALLY YOURS

During a recent waste-related program attended by packaging professionals, we heard of a survey showing consumer support for "energy-recovery facilities."

We had to wonder how the results might have differed had consumers been told that energy-recovery facilities burn trash.

At another such meeting, a builder of municipal waste incinerators repeatedly referred to his products as "thermal destruction units."

The Pentagon could not have phrased it more obliquely. Why not call an incinerator an incinerator?

reusable steel and aluminum packaging, from the waste stream before they get to the incinerator.

The greenhouse effect

Another real problem for incinerators is the perception that they pollute the air. Sophisticated systems for protecting air quality are in use and many incinerators around the world are burning cleanly. But fear of harmful emissions remains a hurdle that's tough to jump. The Bush administration presently is fighting a Senate bill that would restrict emissions so severely that incinerator construction could come to an abrupt halt.

Even carbon dioxide, once thought harmless, is causing concern. According to William K. Riley, administrator of the U.S. Environmental Protection Agency, "Carbon dioxide in the atmosphere has increased 25 percent in 100 years. Something significant may be occurring. We dare not ignore it. EPA scientists estimate that if we don't act to reduce greenhouse gases, worldwide temperatures will rise at least 2 to 3° C. by the year 2000. Such an increase could bring enormous changes in climate, rainfall, agricultural productivity and sea level."

One obvious method of reducing the carbon dioxide, air pollutants and ash that come out of waste incinerators is to reduce the amount of trash that goes in. That presents a difficult dilemma. All too often, waste-to-energy plants are not compatible with material-recovery facilities but competitive. A corrugated case or a plastic bottle can be either recycled or incinerated but not both. Clearly, if material recovery is to be attempted at all, it must occur ahead of the incinerator.

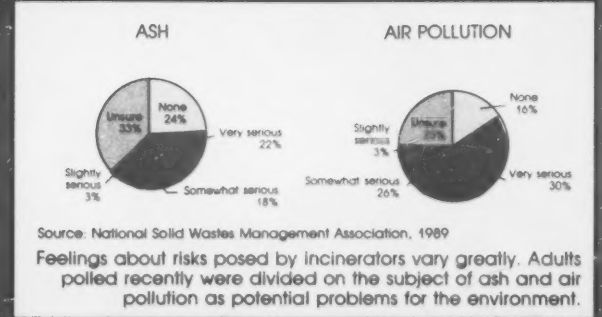
Unobtrusive incinerators like this one are in wide use throughout the United States. But the U.S. lags far behind Europe and Japan in incineration of municipal solid waste.

In the April 1987 publication *Mining Urban Wastes: The Potential for Recycling*, Cynthia Pollock Shea, senior researcher with the nonprofit Worldwatch Institute, says that by ignoring recycling, cities are apt to overbuild incinerators. Excess capacity, she says, "curtails the incentive to reduce and recycle wastes both now and in the future. Only after designing the largest practical recycling program should calculations of incinerator capacity begin."

Advocates of recycling also argue that burning plastics squanders resources, even if energy is extracted and put to use. Since so many nonplastic items must be removed from municipal trash prior to incineration anyway, they ask, why not go a step further and remove the plastics for reuse?

Recycling indeed has the potential to reduce the amount of incineration needed. Once everyone understands that incineration is best employed only after recyclables have been removed from the waste stream, all concerned will breathe a little easier.

—Greg Erickson



Source: National Solid Wastes Management Association, 1989

Feelings about risks posed by incinerators vary greatly. Adults polled recently were divided on the subject of ash and air pollution as potential problems for the environment.